

BUILDING & SAFETYPermits Division
Plans Examination**CITY of LAS VEGAS****LOCATION:** 731 So. 4th Street, Las Vegas, NV 89101**Voice** (702) 229-6251**FAX** (702) 474-7369**WATER SUPPLY SYSTEM SIZING - USING APPENDIX "A"**

The following information is requested so the CLV Building Department will be able to verify the sizing of the water piping correctly when the 2000 UPC, Appendix "A" is used. **Please provide supporting documents for the information provided.** While the information contained in this form is believed to be accurate, this information should not be used or relied upon for any specific application without competent professional examination and verification of its accuracy, suitability and applicability by a competent licensed mechanical engineer, architect, or other licensed professional. Anyone making use of this information assumes all liability arising from such use.

PRELIMINARY INFORMATION:

- 1) Minimum average daily service pressure..... PSI
Call the Las Vegas Valley Water District at 258-3164 or the NLV Water District at 633-1206
- 2) Water meter and RPPA size..... / Inches
- 3) Water meter and RPPA pressure loss..... / PSI Total PSI loss.
(At maximum flow, see demand load)

DEMAND LOAD:

- 4) Total Fixture Units (From Table A-2. Provide list of fixtures & units for each)..... FU
- 5) Flow in gallons per minute..... GPM
(From Chart A-2 using number of total fixture units from line 4 above)
- 6) Continuous supply demands (sprinklers, A/C, etc.)..... GPM
- 7) Line 5 added to line 6 equals the total flow..... TOTAL GPM through Meter.

PERMISSIBLE FRICTION LOSS:

- 8) Minimum residual pressure desired (15 lbs. min.)..... PSI
- 9) Elevation of highest fixture above street water main..... Feet
- 10) Static elevation pressure loss equals maximum elevation multiplied by 0.43

$$\frac{\text{maximum elevation}}{\text{(maximum elevation)}} \times 0.43 = \frac{\text{static pressure loss}}{\text{(static pressure loss)}} \text{ PSI}$$

- 11) The average minimum daily service pressure minus (the static pressure loss + residual pressure desired + meter pressure loss + RPPA pressure loss) = pressure available for friction loss in supply piping.

$$\text{PSI} - (\text{PSI} + \text{PSI} + \text{PSI} + \text{PSI}) = \text{PSI}$$

(minimum daily service pressure) (static loss, residual pressure, meter loss, RPPA loss) (pressure loss available for friction loss in the supply pipes)

- 12) $100 \times \frac{\text{pressure available for friction loss}}{\text{total developed length of piping} + \text{total lineal feet} + \% \text{ fitting loss}}$ = allowable friction loss per 100 feet of piping

$$100 \times \frac{\text{PSI}}{\text{PSI per 100 ft. of piping}} = \text{PSI}$$

- 13) Using the above information the building supply, branches and risers can be sized. Check below which chart is used.

Chart A-4 _____
Chart A-5 _____
Chart A-6 _____
Chart A-7 _____